

EXHIBIT 22

Filed Under Seal

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

SONOS, INC.,

Plaintiff,

vs.

Case No. 3:21-CV-07559-WHA

GOOGLE LLC,

Defendant.

-AND-

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA

GOOGLE LLC,

Plaintiff,

vs.

Case No. 3:20-CV-06754-WHA

SONOS, INC.,

Defendant.

HIGHLY CONFIDENTIAL - ATTORNEYS' EYES ONLY

REMOTE VIDEOTAPED DEPOSITION BY VIRTUAL ZOOM OF
DOUGLAS SCHMIDT

Thursday, February 2, 2023

Reported By: Lynne Ledanois, CSR 6811

Job No. 5686109

1 THE WITNESS: Okay. 2:47PM
2 THE VIDEOGRAPHER: We're off the record.
3 It's 2:47 p.m.
4 (Recess taken.)
5 THE VIDEOGRAPHER: We're back on the 2:56PM
6 record. It's 2:56 p.m.
7 BY MR. HEFAZI:
8 Q Now, you've opined that a standard
9 device -- strike that.
10 You've opined that a user device running 2:56PM
11 the accused YouTube applications is configured for
12 playback of a Watch Next queue; rights?
13 A That's correct.
14 Q What is a Watch Next queue?
15 A There is a discussion of that here on 2:56PM
16 Paragraph 128 in my opening report and then the
17 further elaboration with a bit more color details is
18 provided in Paragraph 60 in my reply report.
19 So the Watch Next queue as discussed in
20 Paragraph 128 of my opening report is the list of 2:57PM
21 media items provided by the YouTube cloud
22 infrastructure for playback. That's what it says
23 there.
24 And then on Paragraph 60 in my reply
25 report, I show a further elaboration of that showing 2:57PM

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1      that the Watch Next queue is the services that
2      provide -- are provided by the Watch Next playlist
3      document service and playlist service capability.
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4	Q	Okay. Is the Watch Next queue stored on	
5		the Watch Next servers?	2:58PM

6 A So it's the capability that's provided by
7 the cloud infrastructure that we see here as shown on
8 the picture at Paragraph 60 in my reply report.

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9           Q      Is the Watch Next queue something that is
10 stored somewhere?                                     2:58PM

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11 MR. LEE: Objection, form.

12 THE WITNESS: Well, the Watch Next queue
13 is the capability that's provided by those services.

14 BY MR. HEFAZI:

15 Q So you keep saying the word "capability" 2:59PM

16 and my question is a little bit different.

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17      Is the Watch Next queue stored somewhere?
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18 MR. LEE: Objection to form.

19	THE WITNESS: I'm not sure what you mean	
20	by "stored."	2:59PM

21 BY MR. HEFAZI:

22 Q Okay. So you opined that in the YouTube
23 Remote prior art, the playback queue is stored
24 locally on a playback device; right?

25 | A That's correct. 2:59PM

1 Q Applying that same understanding of 2:59PM
2 storage, is the Watch Next queue stored on the Watch
3 Next server?

4 A Again, it's stored by the ensemble of
5 services that are shown in the figure on 2:59PM
6 Paragraph 60 -- or under Paragraph 60 in my reply
7 report.

8 Q Okay. So are you saying that a Watch
9 Next -- the Watch Next queue is stored on each --
10 let me take a step back. 3:00PM

11 You understand that the Watch Next service
12 is a collection of servers; right?

13 A I understand there is a number of different
14 servers that are running in the background in the --
15 what I think I refer to as the YouTube cloud 3:00PM
16 infrastructure at the bottom of Paragraph 59 of my
17 reply report.

18 Q Okay. So is the Watch Next queue stored
19 on any of the servers associated with the Watch Next
20 servers? 3:00PM

21 A Again, as shown in the figure in
22 Paragraph 60 in my reply report, the Watch Next queue
23 is the ensemble of services, including the Watch Next
24 service, the playlist document service and the
25 playlist service. 3:01PM

1 Q So in your opinion, a queue does not need 3:01PM
2 to be stored anywhere?

3 A No, that's not what I said.

4 MR. LEE: Objection.

5 BY MR. HEFAZI: 3:01PM

6 Q So in your opinion, a Watch Next queue
7 does need to be stored somewhere?

8 A As I'm saying that the Watch Next queue
9 resides in the context of the Watch Next service, the
10 playlist document service and the playlist service. 3:01PM

11 Q Okay. Is the Watch Next queue stored on
12 each one of these services?

13 A So --

14 MR. LEE: Objection to form.

15 THE WITNESS: So I'm not sure that the 3:01PM
16 claims require there -- I don't think the claim -- I
17 don't believe I've opined that the claims require
18 there to be one place it's stored per se.

19 But if we take a look at the interaction
20 diagram at the top of Page 26, it shows the flow of 3:02PM
21 information involved in contacting -- having the
22 client, the sender, contact the various services
23 involved with managing the Watch Next queue.

24 BY MR. HEFAZI:

25 Q Okay. So my question was a little bit 3:02PM

1 different. 3:02PM

2 Is the -- is a copy of the Watch Next
3 queue stored -- strike that.

4 Is the Watch Next queue stored on each one
5 of the services here, the playlist service, playlist 3:02PM
6 document service and Watch Next service?

7 A I don't think I provide an opinion about
8 specifically which service stores the Watch Next
9 queue.

10 The point I make throughout my report -- 3:02PM
11 my reports is that the YouTube cloud infrastructure
12 provides this Watch Next queue, which is a
13 combination of the Watch Next, playlist document
14 server and playlist service -- I should use the word
15 "service" here, not server. And they are what are 3:03PM
16 used to provide the list of media items for playback
17 in the context of the claim elements.

18 Q Okay. Turn to Paragraph 50 of your reply
19 report.

20 A Fifty? 3:03PM

21 Q Correct.

22 A Okay. I see that.

23 Q So in Paragraph 50 of your reply report
24 you say, "the PlaylistService stores a list of media
25 items selected for playback by the Sender in what 3:04PM

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1 Google refers to as a 'BigTable'." Right? 3:04PM

2 A Yes, I see that.

3 Q What is a BigTable?

4 A BigTable is a -- I believe it's a key value

5 data structure or service -- I should call it a 3:04PM

6 service -- that's provided by Google both to be used

7 by external parties as well as I believe used

8 internally by Google in order to be able to look up

9 values according to their key.

10 Q So it's a large storage system? 3:04PM

11 A I don't know if --

12 MR. LEE: Objection.

13 THE WITNESS: -- it's large, but the term

14 "BigTable" would imply that it could hold a lot of

15 items. 3:04PM

16 BY MR. HEFAZI:

17 Q Okay. Is the BigTable a Watch Next queue?

18 A So as I said before, there is a number of

19 elements that are involved in providing the list of

20 media items that are used for playback and the 3:05PM

21 discussion in Paragraph 50 talks about some of

22 those -- some of those components, services.

23 And later throughout that section from

24 Paragraph 50 on downwards, it describes how the

25 Watch Next queue, which is really the implementation 3:05PM

1 of all -- that ensemble of services, provides the 3:05PM
2 ability to give the information, to give the media
3 items.

4 Q Is the **BigTable** a Watch Next queue?

5 A So as I say here -- as it describes at the 3:06PM
6 first part of Paragraph 50 that we're talking about,
7 it's that ensemble of services, the Watch Next
8 service, the playlist documentation service, the
9 playlist service that work together to provide the
10 media items for playback. 3:06PM

11 And this paragraph is just talking about
12 how one piece of that ensemble, the playlist
13 service, stores the list of media items selected for
14 playback using a particular data structure, the
15 BigTable. 3:06PM

16 Q Okay. Can you identify for me all the
17 services that store the playback queue?

18 MR. LEE: Objection to form.

19 THE WITNESS: So, again, let me just take
20 a quick look at something while I answer that 3:07PM
21 question.

22 Okay. So the services that are part of
23 the Watch Next queue ensemble as described here on
24 Paragraph 50 include the Watch Next service, the
25 playlist document service and the playlist service. 3:07PM

1 Those are what together provide the capability of a 3:07PM
2 remote playback queue.

3 BY MR. HEFAZI:

4 Q Okay. So let's start with the -- let's
5 start with the Watch Next service. 3:07PM

6 Does the Watch Next service store a
7 playback queue that is the list of media items that
8 is used for playback?

9 MR. LEE: Objection to form.

10 THE WITNESS: George, did I interrupt you? 3:08PM

11 MR. LEE: I said objection to form.

12 THE WITNESS: The Watch Next service
13 provides data that identifies the next media items,
14 the video IDs that we've been talking about, in the
15 Watch Next queue by making calls to the playlist 3:08PM
16 document service that that in turn makes calls to
17 the playlist service.

18 They work together as an ensemble to
19 provide the list of media items for playback.

20 BY MR. HEFAZI: 3:08PM

21 Q Okay. So if it makes calls to the
22 playlist service to access the Watch Next queue,
23 then that means the Watch Next queue is actually on
24 a playlist service, correct, not the Watch Next
25 service? 3:08PM

1 MR. LEE: Objection to form. 3:08PM

2 THE WITNESS: No. What I'm describing
3 here is how the YouTube cloud infrastructure
4 implements the remote playback queue that provides
5 the list of media items for playback by the devices, 3:09PM
6 by the playback device, for example.

7 BY MR. HEFAZI:

8 Q Okay. If I were to ask you in front of
9 the ladies and gentlemen of the jury whether the
10 Watch Next queue stores the entire list of media 3:09PM
11 items selected for playback, what would your answer
12 be?

13 MR. LEE: Objection to the form.

14 THE WITNESS: It's my understanding that
15 the Watch Next queue meets the court's construction 3:09PM
16 of a playback queue and that would imply that it was
17 the list of media items that were used or selected
18 for playback, it contained the entire list of media
19 items selected for playback, it wasn't being used to
20 merely process a list of media items for playback 3:09PM
21 and it basically runs the show.

22 That's what I would describe the Watch
23 Next queue as doing in the context of the YouTube
24 architecture.

25

1 BY MR. HEFAZI: 3:10PM

2 Q Okay. If I were to ask you whether any of
3 the servers associated with the Watch Next service
4 store the entire list of media items selected for
5 playback, what would you say? 3:10PM

6 MR. LEE: Objection, form.

7 THE WITNESS: I would say that the Watch
8 Next service in conjunction with the playlist
9 document service and the playlist service used as an
10 ensemble is used to provide the list of media items 3:10PM
11 for playback.

12 BY MR. HEFAZI:

13 Q Okay. Can you tell the ladies and
14 gentlemen of the jury whether the Watch Next service
15 alone is going to store the entire list of media 3:10PM
16 items selected for playback?

17 MR. LEE: Objection, form.

18 THE WITNESS: It's my understanding that
19 the Watch Next service plays a role in the Watch
20 Next queue's ability to return the lists of media 3:11PM
21 items that are provided for playback.

22 BY MR. HEFAZI:

23 Q Okay. So the Watch Next service, those
24 servers do not store the entire list of media items
25 selected for playback; is that right? 3:11PM

1 MR. LEE: Objection to form. 3:11PM

2 THE WITNESS: I think as I've said a
3 couple of times, the purpose of the Watch Next queue
4 is to provide the list of media items that are going
5 to be used for playback and the Watch Next service 3:11PM
6 works together with these other two services, the
7 playback document service and the playlist service,
8 in order to be able to provide the capability of a
9 remote playback queue in the context of the YouTube
10 cloud infrastructure. 3:11PM

11 BY MR. HEFAZI:

12 Q Sir, I'm not asking you whether they work
13 together or anything like that.

14 My question, if you could just focus on it
15 because the judge is going to see this and so it's 3:12PM
16 important that you answer it.

17 Is the entire list of media items selected
18 for playback stored on the servers of the Watch Next
19 service?

20 MR. LEE: Objection to form. 3:12PM

21 THE WITNESS: So again, it's my
22 understanding that the way things work is that the
23 combination of services provide the list of items
24 that are going to be used for playback.

25 I'm looking at this analysis Alice from 3:12PM

1 the point of view of the claims of the '033 patent 3:12PM
2 and focusing on what has to be satisfied in order
3 for the claims to be infringed.

4 And it's my opinion, my understanding that
5 the Watch Next queue is what plays the role of the 3:12PM
6 remote queue in the context of the cloud
7 infrastructure portion of the patent.

8 BY MR. HEFAZI:

9 Q Have you cited any source code in your
10 report showing the Watch Next queue? 3:13PM

11 A Well, there's references to a whole bunch of
12 different elements in terms of the elements of the
13 play -- the playlist service and the playlist document
14 service.

15 Q Let's go to your opening report. 3:13PM

16 A I'm sorry?

17 Q Let's go to your opening report.

18 A Okay.

19 Q Take a look at Paragraph 243.

20 A Okay. 3:13PM

21 Q Is the Watch Next service store -- sorry,
22 strike that.

23 In Paragraph 243 you said the source code
24 below shows "that a YouTube sender has the
25 capability to operate in a mode in which the YouTube 3:14PM

1 Sender is configured for playback of the Watch Next 3:14PM
2 queue." Right?

3 A This is Paragraph 242?

4 Q 243.

5 A Oh, 243. Sorry. Okay. 3:14PM

6 Q Does any of this code identify where the
7 Watch Next queue is stored?

8 A If I'm correct, this is code that looks like
9 it's coming out of the Android portion.

10 And so as you can see here, this is 3:15PM
11 referring to things like the Watch Next fetcher,
12 which is going up I think as I talked about when we
13 were describing Paragraph 50 in my reply report,
14 that it uses that to get data identifying the next
15 media items, the next set of video IDs that the 3:15PM
16 Watch Next queue will be providing back to the
17 receiver and so on, or the client depending on the
18 configuration of the mode that it's currently in.

19 So the code that we're showing here is
20 showing how the Android client will fetch that 3:15PM
21 information.

22 Q Okay. And the Android client does not
23 store Watch Next queue; right?

24 A The Watch Next queue, as I've described
25 elsewhere, is stored as part of the YouTube cloud 3:16PM

1 infrastructure. 3:16PM

2 Q Okay. And so none of this code is code
3 that stores the Watch Next queue; right?

4 A The discussion that we're having here is for
5 Claim Element 1.4 and I think the operative aspects 3:16PM
6 there is the showing that the YouTube sender has the
7 capacity to operate in a mode where the YouTube sender
8 is configured for playback of the content that the
9 media items that are going to be returned by the Watch
10 Next queue in order to play them back. 3:16PM

11 So this is looking at a different part of
12 the claim.

13 Q Okay. Let's go down a little bit. Okay.
14 Take a look at Paragraph 248.

15 A I see that. 3:17PM

16 Q It says, "The following code demonstrates
17 that the YouTube cloud infrastructure has the
18 capability to provide the Watch Next queue for
19 playback." Right?

20 A That's correct, yes. 3:17PM

21 Q Can you tell me where this Watch Next
22 service, the list of media content selected for
23 feedback is stored, which one of these files is the
24 one that stores the list of multimedia content
25 selected for playback? 3:18PM

1 MR. LEE: Objection to form. 3:18PM

2 THE WITNESS: So I think what this is

3 showing is this is server-side code that we expect

4 to run in a cloud environment.

5 And it's demonstrating how the code that's 3:18PM

6 implemented here receives requests from clients like

7 an Android client or an iPhone for that matter and

8 is able to respond to those requests by making other

9 requests to other parts of the overall Watch Next

10 queue ensemble of services that we talked about 3:18PM

11 before, including the Watch Next service, the

12 playlist documentation service and the playlist

13 service.

14 BY MR. HEFAZI:

15 Q Does any of this code manage the storage 3:18PM

16 of the Watch Next queue?

17 A This part of the code, as I recall, is used

18 to provide media items -- let me just make sure I'm

19 reading the right thing.

20 Yes, it's my understanding that the Watch 3:19PM

21 Next service, the code we were just looking at,

22 provides data back to the sender or I guess

23 depending on who it's talking to, can also provide

24 it to the receiver, whoever is contacting it.

25 It provides data that identifies the next 3:19PM

1 media items in the form of video IDs that are going 3:19PM
2 to be offered up by the Watch Next queue as part of
3 the list of media items to playback.

4 Q So the data structure that stores the
5 Watch Next queue is not a part of the code that you 3:19PM
6 list in your Paragraph 248 on Page 77?

7 A Part of the code that's shown here on
8 Paragraph 248 and below has do with how the client,
9 whoever is calling this thing, can get access to the
10 video IDs that are being provided by the Watch Next 3:20PM
11 queue for playback.

12 Q And where are they being provided from?

13 MR. LEE: Objection to form.

14 BY MR. HEFAZI:

15 Q Who's providing them? 3:20PM

16 A The combination of the services we have been
17 talking about. The Watch Next service does part of
18 it, the playlist document service does part of it, the
19 playlist service also does a part of it.

20 Q So the Watch Next queue is not stored in 3:20PM
21 any one place?

22 A Again, I am a little unclear, but my
23 assignment here is to understand, through a variety of
24 different means, how the YouTube cloud infrastructure
25 for this part of the claims infringes the patents. 3:21PM

1 And so when I read the patent claims, I don't see 3:21PM
2 something where it says it's stored in such and such a
3 place.

4 So I'm describing for you what's actually
5 in the claim elements which have to do with being 3:21PM
6 able to provide lists of media items for playback,
7 to paraphrase.

8 Q Okay. So in your opinion, the remote
9 playback queue does not need to be stored in any one
10 particular place? 3:21PM

11 A It can very well be stored in one place.
12 The key aspects of the claim, however, are for it to
13 be able to practice the claim elements, for example,
14 to be able to operate in a mode that is going to allow
15 the cloud infrastructure to provide the list of media 3:21PM
16 items for playback.

17 Q And the list of media items, the entire
18 list of media items in the accused YouTube
19 applications, are they stored on one server or
20 multiple servers? 3:22PM

21 MR. LEE: Objection to form.

22 THE WITNESS: They can be stored various
23 ways in various places at various times. The real
24 issue here from my perspective is whether or not I'm
25 able to demonstrate how the claims of the patent are 3:22PM

1 infringed by the various instrumentalities at issue 3:22PM
2 here.

3 So in this particular case, we're looking
4 I think at the part having to do with Claim
5 Element 1.4 about configuring the computing device 3:22PM
6 to playback a remote playback queue.

7 BY MR. HEFAZI:

8 Q So let's turn to Page 78 of your opening
9 report. You cite some code here on Page 78 for the
10 playlist service; right? 3:22PM

11 A Which paragraph?

12 Q It's part of Paragraph 248, but Page 78.

13 A Page 78, that's right at the top of the
14 page, "Playlist Service."

15 Q Okay. And do any of the pieces of code 3:23PM
16 that you've cited here manage the storage of the
17 Watch Next queue?

18 A Yes, in addition to the other things we've
19 talked about. So I think there's some examples.

20 Looking here at Line 8, "Playlists of all 3:23PM
21 types can be treated as basic playlists. They
22 represent an ordered list of videos."

23 There is a discussion on Lines 9 and 10

24 about having a way to access and manipulate

25 playlists stored in a BigTable. 3:24PM

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1      There's discussions on Line 13 or 14 about 3:24PM
2      loading playlists, giving their full list IDs and
3      more. There's --
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4           Q      Does the Watch Next queue have to be --
5      strike that.                                     3:24PM

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6 So you say in Line 10, "a playlist is
7 stored in the BigTable"; right?

8 A I see that there is a -- describing what the
9 playlist service header file is saying that the --
10 this file contains a collection of RPCs to access and 3:24PM
11 manipulate playlists stored in the BigTable.

12 Q So does the **BigTable** store the entire list
13 of multimedia content selected for playback?

14 MR. LEE: Objection to form.

15 THE WITNESS: So, again, what's described 3:24PM
16 in Paragraph 50 of my reply report is that the
17 playlist service stores lists of media items
18 selected for playback by the sender in what Google
19 refers to as the BigTable, which is identified by a
20 playlist ID. 3:25PM

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21         And playlist service provides video IDs
22         from media items from that stored list to the
23         playlist document service that returns the video IDs
24         to the Watch Next service.
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1 BY MR. HEFAZI: 3:25PM

2 Q Okay. So in your opinion, does the
3 **BigTable** store the Watch Next queue?

4 A I think as I've been describing throughout
5 the questioning, the Watch Next queue is a capability 3:25PM
6 that's provided by an ensemble of services including
7 Watch Next, playlist document service and playlist
8 service.

9 And together they are what are used to
10 provide the lists of media items for playback. 3:25PM

11 Q Okay. So the Watch Next queue is just a
12 capability, it's not an actual data structure that's
13 stored somewhere?

14 MR. LEE: Objection to form.

15 THE WITNESS: It's an ensemble of services 3:26PM
16 that work together to provide the remote playback
17 queue service or capability that's described and
18 disclosed in the claims of the '033 patent.

19 BY MR. HEFAZI:

20 Q You keep referring to the capability. Is 3:26PM
21 the Watch Next queue just a capability or is it an
22 actual data structure that's stored somewhere?

23 A Well, again, looking at the claims, there
24 needs to be a capability that provides a list of media
25 items for playback. And specifically what data 3:26PM

1 I, LYNNE M. LEDANOIS, a Certified
2 Shorthand Reporter of the State of California, do
3 hereby certify:

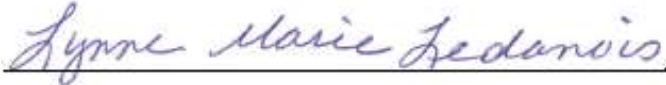
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10 Further, that if the foregoing pertains to
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14 I further certify I am neither financially
15 interested in the action nor a relative or employee
16 of any attorney or party to this action.

17 IN WITNESS WHEREOF, I have this date
18 subscribed my name.

19 Dated: February 4, 2023
20
21
22

23 

LYNNE MARIE LEDANOIS

24 CSR No. 6811
25